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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,847	08/14/2001	Po-Sheng Shih	JCLA6974	2113
7590	02/02/2004		EXAMINER LEWIS, MONICA	
J.C. Patents, Inc. Suite 250 4 Venture Irvine, CA 92618			ART UNIT 2822	PAPER NUMBER

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/930,847

Applicant(s)

SHIH, PO-SHENG

Examiner

Monica Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This action is in response to the amendment filed November 5, 2003.

#### *Response to Arguments*

2. Applicant's arguments with respect to claims 15-20 have been considered but are moot in view of the new ground(s) of rejection.

#### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15-19 are rejected under 35 U.S.C. 103(a) as obvious over Yamakawa et al. (U.S. Publication No. 2002/0000622) in view of Applicant's Prior Art.

In regards to claims 15-19, Yamakawa et al. ("Yamakawa") disclose the following:

- a) an insulating substrate (1) (For Example: See Figure 3);
- b) a gate structure, wherein the gate structure includes a gate layer (5a), a gate dielectric layer (4a) and a spacer (6a and 6b) on each side of the gate layer, wherein the spacer with respect to a surface of the gate layer forms a contrast surface (For Example: See Figure 1); and
- c) a selective conductive layer (7a-7c) directly on the gate layer and directly on a layer adjacent to the spacers based on the contrast surface, wherein the selective conductive layer adjacent to the spacers directly serves as a source drain region (For Example: See Figure 1). Yamakawa teaches that the conductive layer can comprise silicon-germanium, a metal layer such as tungsten or titanium or a metal silicide (For Example: See Paragraph 66).

In regards to claim 15 and 16, Yamakawa fails to disclose the following:

- a) a polysilcon layer having a thickness of 250-350 Å over the substrate.

However, Applicant's Prior Art discloses a semiconductor device that has a polysilicon layer (104) that has a thickness between 250-350 Å over the substrate (For Example: See Figure 1b and Paragraph 6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Yamakawa to include polysilicon layer that has a thickness between 250-350 Å over the substrate as disclosed in Applicant's Prior Art Drawings because it aids in lowering the threshold voltage (For Example: See Paragraphs 6 and 10).

Additionally, since Yamakawa and Applicant's Prior Art Drawings are both from the same field of endeavor, the purpose disclosed by Applicant's Prior Art Drawings would have been recognized in the pertinent art of Yamakawa.

Finally, the limitation of "in-situ doped" makes it a product by process claim (See Claim 17). The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "product by, all of" claim, and

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not the patentability of the process, and that an old or obvious product, whether claimed in "product by process" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

5. Claim 20 is rejected under 35 U.S.C. 103(a) as obvious over Yamakawa et al. (U.S. Publication No. 2002/0000622) in view of Applicant's Prior Art and Gardner et al. (U.S. Patent No. 5,872,376).

In regards to claim 20, Yamakawa fails to disclose the following:

a) the spacer is a tetra-ethyl-ortho-silicate (TEOS) layer.

However, Gardner et al. ("Gardner") discloses a semiconductor device that has spacer comprised of TEOS (For Example: See Column 6 Lines 54-67 and Column 7 Lines 1-3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Yamakawa to include a spacer layer as disclosed in Gardner because it aids in isolating the gate, source and drain regions (For Example: See Column 6 Lines 54-67 and Column 7 Lines 1-3).

Additionally, since Yamakawa and Gardner are both from the same field of endeavor, the purpose disclosed by Gardner would have been recognized in the pertinent art of Yamakawa.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 571-272-1838. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ML  
January 21, 2004



**Mary Wilczewski**  
**Primary Examiner**